

## MANUFACTURING



Over the past decade, American manufacturing has made tremendous progress in improving the quality of products and services. The most successful U.S. manufacturers have realized that it is not what they produce but how well they produce it that determines customer satisfaction, sustained profitability, and long-term global competitiveness.

Advanced technology allows U.S. manufacturers to improve their techniques and processes and, in some cases, to reduce the environmental impact of manufacturing. For example, real-time computer software can help plant managers monitor and control processes remotely from multiple terminals, rather than limiting them to a single computer center at the plant site. In another example, new lead-free solder technology will enable manufacturers to produce stronger, more environmentally friendly printed circuit boards, which are used in nearly all electronic products.

### Today's Market

Manufacturing is key to U.S. economic stability. Its share of the gross domestic product has remained remarkably stable, at 20 percent to 23 percent, for more than 45 years. Manufacturers employ 18.3 million people throughout the country. Thirty-seven states showed an increase in manufacturing jobs from 1993 to 1994. The United States is the world's largest industrial exporter. U.S. exports from 1985 to 1993 grew much faster than those of its two chief competitors, Japan and Germany.<sup>1</sup>

### Tomorrow's Opportunity

BMDO has funded the development of advanced technology in pulsed power, control software, optical processing, and materials. While improving the Nation's defense, much of this technology also offers strategic benefits to the American manufacturing community, helping companies significantly improve their manufacturing capabilities. The following section describes seven of these innovations.

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<sup>1</sup>The Manufacturing Institute. The facts about modern manufacturing. World Wide Web at <http://www.nam.org/Modern/FactsMan/summary.html>.